

AN
ADDRESS

DELIVERED TO

THE STUDENTS

AT

ST. BARTHOLOMEW'S HOSPITAL

ON MONDAY, OCTOBER 3, 1864

BY

GEORGE W. CALLENDER

ASSISTANT-SURGEON TO THE HOSPITAL

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I venture to claim the indulgence of my
readers for the shortcomings of the
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ADDRESS.

MR. TREASURER AND GENTLEMEN,

I thank you, Sir, on behalf of my colleagues and myself, for your presence here this evening. It is a great satisfaction to us to feel sure that your interest in the School will continue and will increase ; for we know that to entertain this interest is, if I may venture to make use of the expression, a privilege which has descended to you through a long line, as a valued heritage. Even the religionists of the Order of St. Augustine, who first ministered in this sanctuary, on ground consecrated to the relief of our distressed brethren, whilst heedful of yet higher duties, cared for the dogmas of the medicine of their day, and thus, whilst laying the foundation of our Hospital, established, as though by a necessary consequence, the first school of which in Britain our profession is possessed. Much more in the present day, when arts and science have laid so firm a hold upon all classes of the community, may we feel sure that the representatives of the founders of St. Bartholomew's will give every

facility for the advancement and transmission of medical knowledge.

We ourselves, whose first care must ever be the relief of the sick and of the suffering, gratefully reflect how much better we are able to carry on our work, because we are stimulated to excel in observation and in treatment in order that we may act the part of faithful teachers, knowing, as we do, that our teaching must be ever nigh to the very life of practice, or it will but ill instruct the faculties which it should prepare and train.

We are told that Aristotle, the philosopher, and, I may truly add respecting him, the scientific physician, was provided, through the liberality of a great prince, with treasures, with hunters, with fowlers, and with fishers, in order that he might compile a history of nature ; we too have our treasures freely supplied to us in the field of study which this Hospital affords. But in return for the aids thus given to us an incomparably higher task is set before us, for we are held responsible, not for a mere history of nature, but by the observations of experience for the bending of very nature herself to the purposes of our art, an endless progress, to which if each one contribute, be it ever so little, he may be well content, but not unless by his teaching he transmit zeal, and longing which must be insatiable, for continuing and for carrying on the work.

It is not for me now to say how, in times gone by, those responsibilities have been met. I name none

of our great ones of the past, for in truth, as Cicero says, ‘*Difficile non aliquem, ingratum quenquam præterire* ;’ suffice it that there have been examples set to us here which we shall do well to follow. Rather I turn to the work before us, and speak to you of the immediate future, of that future in which, gentlemen, as students at St. Bartholomew’s, you must prepare yourselves, so that in after years you may practise your profession faithfully and well.

I have anxiously considered how I might best address myself to you this evening ; how best endeavour, not so much to instruct, as to interest you in your work, by placing a sketch of it before you side by side with suggestions for its pursuit, and with sureties for your ultimate success. Oftentimes as these lectures have been given within the walls of this theatre, not unfrequently, and indeed but recently, with a rare eloquence of speech and felicity of language, yet the subject of which they treat is so extensive that one can never be at a loss for materials, rather one is embarrassed by their superabundance. Thinking over the experiences and the wants of my own student days, I bethought me that your work here might be lightened, be it ever so little, if you could this evening hear something respecting certain aids to study, which you must practise each one for himself, because they are self-aids, helps which you must make every use of if you would work with order, with economy, and to the best advantage.

But perhaps those amongst you whom we meet here this evening for the first time, and whom we welcome at this the commencement of their career, will expect that I should introduce them to our common profession. I can tell you, gentlemen, of its illustrious origin. How, in heathen mythology, to use Lord Bacon's words, Esculapius is represented as the son of the Sun, the one being the fountain of life, the other as the second stream; but how infinitely more our art is honoured and ennobled by the example of our Saviour, who made man's body the object of his miracles, as the soul was the object of his doctrines. I can tell you, too, that ours is a profession moved by no sudden impulse, slow in its progress, but sure, because based upon scientific work; upon work not quickly accomplished, but which, when done and accepted, is not easily overturned by the orders or by the councils of men. And in this respect our profession contrasts favourably with her sister callings, for, not to refer to the perplexing decrees of the great councils, or the troubles of nonconformity, you may trace for your instruction in the works of an admirable observer of men and of human passions* how, during the great French Revolution, the conception of vicious laws, and the license of the advocates, brought discord to their profession, and unequalled troubles upon the community.

* Alexis de Tocqueville.

Long usage has consecrated the titles of Medicine and of Surgery to name the great divisions of our art. Far away in heroic times, Machaon and Podalirius, our celebrities of the Iliad, have their professional renown prolonged in the poem of Arctinus the Iliu-Persis,* and even there the one is referred to as unrivalled in surgical operations, the other as sagacious in detecting and treating medical symptoms. A statement at variance with the commonly received opinion that surgery, rather than medicine, was the object of their pursuit, or that an ἰητρὸς was simply the man *ἰούς τ' ἐκτάμνειν, ἐπὶ τ' ἥπια φάρμακα πάσσειν*, or as Heyne suggests in his commentaries,† that the doctor's art was ‘non cura morborum, sed vulnerum sanatio, opera Chirurgica.’

Rough, however, and but little to be boasted of, was the practice of either branch of the profession in such days, and indeed, although as I say the names remain, nothing is more remarkable than the grand sum-total of the advance which Medicine and Surgery have by degrees effected. Now, so exact and orderly in themselves, much as we have indeed yet to learn respecting them, that their principles and their practice will, I am sure, surprise you by their precision. You will find them based upon observations of nature, which, I need scarcely tell you, are the best of all observations, accumulated during many ages, arranged so that each one of us

* Arctinus, Epic. Græc. frag. 2, p. 22, Düntzer; Grote, i. 248.

† Tome i. note to line A 514.

may push out into fresh ground, and add to the common stock of knowledge, without a chance even of disturbing the plan of the whole. But as all our knowledge and all our progress has been gained direct from nature herself, and as she reveals to us her secrets only in return for real hard work, so our success with her would be much less, if we were not trained to our task ; and it is for this we have all of us gone through the lessons and the exercises of our youth.

Whatever system of study you may have followed up to the present time, one of its objects has been the cultivation of the senses, of those reporters to the mind which convey to it the information selected for its education, making the brain, as has been well observed, to swell as it were with knowledge. And this mind-training is considered of such first-rate importance that every encouragement has been given you to make its cultivation an attractive task. You have been incited by rewards, aided by good direction, stimulated too by competition with your fellow-workers. Amongst your other studies you have been engaged in those which are termed the classical. And I for one believe greatly in the excellence of the mind-training which forms so remarkable a characteristic of our public schools, and which is enforced in the study of ancient rhetoric, grammar, and composition. Besides the discipline which you get from it, you cannot read the choice works of classical celebrities without bowing to the

influence exercised by the refinement of language, the eloquence, and the terseness of diction which you study in their pages ; they represent to you the feelings, and they give you the matured thoughts, of the most remarkable and most able men of their own times, and they set you subjects for reflection and for mental analysis often of rare excellence. Yet there are some who would decry such studies, more especially as introductory to the studies proper of our own profession ; and some even seem disposed to echo respecting them the words attributed to Marcus, the grandfather of Cicero, who, referring to somewhat similar studies, is reported to have said * ‘that his countrymen were like Syrian slaves, the more Greek they knew, the greater rascals they were.’ Believe me, however, you will find it of great advantage to have done good classical work, placing you, as it will, on a level with the general literary excellence of those classes of society in which you must associate in the practice of your profession. Then, again, by the study of mathematics you have acquired precision, order, and method in thinking out and following propositions to their legitimate ending ; and, again, by the study of Natural Philosophy, you have learnt, at all events something, respecting phenomena which exert, in a hundred varied ways, an influence upon the science and the art of our profession.

* Forsyth’s *Life of Cicero*, page 6.

Thus a river of knowledge, if you will accept the comparison, has been directed through your minds, and you have, I trust, absorbed freely from the stream; each one of you laying by, according to his bent, a more excellent store it may be of one subject rather than of another. And to this of late a lesser stream has joined in,—I mean, that you have been learning something respecting Medicine herself; gaining, I trust, a general idea of the sort of work which is now before you, learning something respecting its many details, items of information which will, no doubt, be of use to you hereafter, and more especially in your future relations with your patients. Recollect, however, that your real work now begins in earnest; that you now commence those studies which reveal to you medicine as a grand and noble science. Your road is at present clear before you, and the result, in a great measure, will depend upon your own exertions. You may not, it is true, all excel; but we shall work ill for you, and you will work ill for yourselves, if in the end you are not all equally content. I can promise you that you will all learn a great deal, and that hereafter you will have vast opportunities for doing good; and I can promise you yet further, that if you work now with industry and with determination, you will not fail to attain that which we all naturally covet, modest it may be, but substantial and honest success.

And now for a word respecting your professional

studies, which it is the fashion of the present day to speak of as the scientific and as the practical. The first are, to a certain extent, introductory to the second, and, therefore, it is to scientific work your attention is first directed. By scientific studies (I refer now to those mixed sciences with which in our profession we are more immediately concerned), by scientific studies understand those which give you a knowledge of nature, of what we see going on around us in nature's processes, and of principles based upon observation of these facts. Studies which become more intricate, and which require a more close application to enable us to master their details, the nearer we contrive to get to final causes. The scientific work, however, which you are required to master, is no great difficulty in your way, and besides, has this substantial recommendation, that it gives life and reality, as it were, to your practical work, to studies which would otherwise consist in the experience and learning of bare facts, interesting and valuable in themselves no doubt, but wanting the cohesion and oneness which science gives by connecting them with the ebb and flow of a common life action.

What with Chemistry, with Botany, and with Physiology, you may be said, to a certain extent, to have before you all knowledge for your province. You thus survey the many signs of life, past and present, amidst which we live, and view the wondrous work of the Creator, which is revealed to you

in a myriad varied microcosms, and yet discloses an order and a system, which adapts itself by excellent subtlety to special wants, whilst preserving those principles of life and means for its maintenance, which enable us to classify living beings, and to assign to each one its just position in the great scheme of nature. As we may be well overpowered by the greatness of God's work, so we may humbly reflect on his goodness in that he has placed all these his wondrous creations at our disposal to use them as seems best to us. Still more, that he has given us power, by the exercise of thought and of reason, to unravel the principles of the life by which we are surrounded, illustrating and thus making better known to us our own, rendering the secrets of its maintenance and the methods of its reproduction less obscure, the means of repairing it when hurt or disarranged more obvious. This power is given to us, and in return we are held responsible for the good use of it; and as you know that much is required of those to whom much is given, so you may be well content to learn that the work which our profession demands of us, if we would stand well with our fellow-men, is essentially good work, work which should better our moral nature, and entice us to live more in harmony with the hopes we should entertain of the life to come.

So, gentlemen, the observation of God's work in nature fitly leads you up to the consideration of man, the chief of nature's works, chief because perfect in

his powers for good and for evil, perfect in his responsibilities, but withal a machine liable to many a break-down during his brief life of exposure to the storms and to the buffets of time. Indeed, it is as a machine that you have first to study him. You must dissect part after part to learn his minute anatomy, you must know the order and the design of his every structure, you must make yourselves familiar with their mutual relations ; for it is thus only you can acquire true confidence for performing the delicate and critical operations of surgery. I do not think it possible to insist too strongly upon the importance to you of the study of human anatomy ; apart from the indirect advantages to be gained, it is the very foundation of your remaining work. Learn it then thoroughly, for to no science do the words of Pope apply more strongly,

‘ A little learning is a dangerous thing,
 Drink deep, or taste not the Pierian spring ;’

dangerous, because imperfect knowledge of it will often find you bold to commence an operation which you lack the learning to complete, or which you get through after a fashion, to the hurt perhaps of your patient, certainly to your own great discredit ; dangerous, because if you are thus careless and ill-informed about the first, and not the least of your studies, what value are we to set upon your remaining work, thus sapped at its very foundation ?

From anatomy we can scarcely dissociate Organic Chemistry, which, besides its other teachings, analyses for us the materials of which this body is composed, so that, knowing its composition and familiar with its structure, we are better able to study its action—I mean its life. Human ingenuity and research enable us to tell you of the many processes which are in active work for the maintenance of this life—how each tissue, constantly on the wear, is renewed, as it fails, by reproduction of its like; how sensation and the power of motion thread the body by the many nerve-fibres, controlled for all outward expression by the influence of the mind; how, in a word, man lives and moves and has his being. Physiology in the present day, beyond most others, is a science of active progress; years as they pass add new facts, in advance of and often superseding the old; indeed, in this lies one of its chief charms, for through it we grapple with the unknown, and experience all the keen excitement of discoverers as we extend our researches. But when physiologists come to the teaching of others, they content themselves with impressing upon learners the leading principles of their fascinating science. Thus physiology will not alarm you by a sudden display of its vast belongings, but will approach you by degrees, so that, by patient continuance of learning, you will master so much as your teachers know from experience to be essential to you, not only as practical doctors, but as scientific members of a profession

which thus only by hard work after sure nature truth maintains its position amongst the learned.

Later on, after you have learnt, after all and at the best but little, for the knowledge of the wisest amongst us is but as littleness when compared with that perfection of knowledge which shall be revealed to us hereafter; still, I repeat, after you have learnt to know man as he is constructed and as he lives in health, you will have to study more closely the signs which he gives of disarray. It is of the first importance for you to have an exact knowledge of the extent to which organs and tissues are spoilt by disease. You will never understand symptoms—and not the least of our objects is the recognition of symptoms—unless you know thoroughly the changes of which they are the signs; and you can only learn these truly and well by working in the Post-Mortem Theatre, where they will be impressed, not only upon your memory, but upon what I venture to name to you as the eye-memory, that which recalls facts, as it were, through the picture-painting of the mind; a faculty, the cultivation of which we can always recognise by the accuracy and certainty which it imprints upon diagnosis.

I cannot of course show you any royal road to the learning of your profession, but I believe that a near approach to one is to be found in this study of Pathological Anatomy. Medicine from her nature is not, I fear I must add, never can be, an exact science, but the changes produced in organs and

tissues by disease are exact facts, respecting which our knowledge may increase, about which opinions may and will differ ; but still facts, with which we can associate certain symptoms, and thus recognise during life the character and the extent of disease. If your work stopped here, I do not see that there would be any great difficulties before you, for so sure a thing has diagnosis become, that in the great majority of cases it presents no difficulty whatsoever; that in many of those remaining it resolves itself into a question as between two closely allied disorders, whilst few are left about which, in the present day, doctors can disagree.

But having learnt to recognise disease, it remains to cure it. And here you must bring to bear what is called practical knowledge, the wisdom which experience gives, that experience of which Carlyle writes, ‘She doth take dreadfully high wages, but she teacheth like none other.’ Nor is it difficult to explain to you what is meant by this practical knowledge. A physician, for example, may know all about his subject—man—his diseases, their causes, their effects, and their recognised treatment; but above all this is the facile and dexterous handling of his knowledge and of his remedies, so as to fence and parry and if possible get the better of disease; and, I know not how it be, this is a possession few have excellently well, and which, despite all its training, the scientific mind sometimes fails to grasp. If I were called upon as umpire to decide

before you between two imaginary, and I trust impossible extremes, I would say to you that in our profession it is better to be the practical man rather than the scientific. There are and there ever will be excellent physicians and surgeons who make it their boast to have nothing but the experience of practice to guide them in their life-work, but, believe me, all such are the better doctors because their practical knowledge has been tempered with scientific work. This leaven of science you must acquire here. We live, it is said, in a practical age; by all means let us be practical too, but let us none the less possess the scientific knowledge which fits us to be so.

We have always set our faces against the error—for I believe it to be an error—of teaching scientific transcendentalism. We have avoided those extremes which have influenced, I consider so injuriously, practical work in Germany. We recognise the value of scientific work, and we take care you shall devote so much of your time to its study as we deem essential to ensure your future excellence in practice, and to train you in habits of observation, of thought and of reflection. If any one of you desire to pursue such studies yet further, every facility will be given him to follow to the end the work which enamours him. But in the wards, by the bedside of the sick, at the examinations after death—in a word, in the province of practice, your scientific work—its meridian the clear perception of

man's healthy life—culminates in the study of disease. It is only face to face with disease, and hearkening to those who have long since bought experience, that you can ever learn the rudiments of practice; it is only by noting for yourselves, and by submitting your work to the criticism of your teachers, that you can ever become efficient to detect the changeful signs which sweep through every disease. It is this knowledge of our dependence for instruction upon those whose experience is great, and of tried excellence, that enhances all the more our regret at the loss of those from amongst us who justly rank, in every sense of the word, amongst the leaders of our profession. They leave us, it is true worthy successors; but we are none the less grateful to renew with our Consulting Physician and Consulting Surgeon* a colleagueship which has been productive to us of ever-increasing good. To us, they were patterns of excellent work; to you, gentlemen, they were faithful teachers; and they fortunately remain amongst us, as exemplars of the dignity and honour of our profession.

I know not whether both of these gentlemen are present here this evening, but I trust that one of them will pardon me if I refer to him with reference to what I wish to leave impressed upon your minds regarding the importance of practical work. We are largely indebted to him for the order and

* Dr. Burrows, President of the Medical Council of Education, and Mr. Skey, late President of the Royal College of Surgeons.

system he trained so many of us to observe. It was, I confess, almost with a feeling of awe that I commenced my duties as one of his clinical clerks. The punctuality of the work, and, as it then appeared to me, the wisdom with which those who had gone through the probation of office referred to the cases which surrounded me in the wards, made the uphill of my work appear yet greater. But from thence I date precision and method in observing and thinking out cases, connecting them, on the one hand, with the book-work of the School, and on the other hand, gleaning from them the experiences of treatment. Observe, I refer to this work as precise, as exact; nothing can be worse than carelessness in observation. The signs of disease are oftentimes so slight they might easily escape detection, and a hasty glance might fail to recognise, or if noticing, to value them aright. They require to be systematically looked for; you must, therefore, be painstaking with your cases, and, above all things, never be led astray by the brilliancy which attaches to a rapidly-formed opinion; one as likely as not to be incorrect, unless given by a physician whose ability is such as to place him above all ordinary competition.

By the bedside of the sick, then, you study disease; there only can you learn and become experienced in its treatment. This experience is just that which practice alone can give you. You must accumulate and connect for yourselves the facts

upon which it is based. Books cannot do more than give you general principles of treatment, for man's body is so moulded and conformed to the mind which controls it, that influences of education, habits, associations (the accompaniments of health), give rise to endless variations in the progress of, and consequently in the management of disease, which no book yet written could even pretend to indicate. I say management of disease, for we recognise means of cure other than those which are tabulated in the Pharmacopœia. Fresh air, cleanliness, diet, mind-occupations, and the like, these are the remedies with which to assist nature in throwing off disease. Never forget that nature effects, if possible, the cure, and that the physician is best skilled who, by judicious selections from his *Materia Medica*, so lightens her task as to relieve the passing pain; who supports and, if needs be, stimulates her efforts, or who transfers the stress of a disease to where it can be best borne by the system. These, in a few words, are, I believe, the great principles which must guide us in our treatment of our patients.

Recollect, then, that your diagnosis must be based upon good knowledge of the extent to which disease mars or spoils the machinery of healthy life, that life which physiology, the science of man's material nature, teaches us to know. Your treatment must be the product of these combined studies, and of your own observations and experience; not the treatment which trumpets its specific remedies for the cure of disease, but such as I have just sketched

for you, humbly nature-helping. You will find it hard to learn, to learn thoroughly and well as we understand the term; for it is intricate as is the ingenious skill with which men minister, by their sinful wills, to their inheritance of sickness and of death.

I wish we could make the pursuit of knowledge so pleasant that, like Roger Ascham, we could indeed 'entice and lure you to it.' We have, however, but a humble opinion of our own powers, which powers we willingly exert to the utmost, to aid you in your work. I want you, therefore, to understand how much more you will advantage yourselves of our help, if, avoiding the common errors of frivolity and want of purpose, you will strengthen yourselves for work with materials now ready to your hands, which you have been possessed of indeed from your earliest youth.

We have all of us the faculties of reason and of will, and we have the power of giving or withholding outward manifests of these two. Education has for part of its objects to give activity to, and at the same time to place control upon, these faculties. To give activity to them because, but for the information conveyed to the mind through the senses, they would remain comparatively dormant; to place control upon them because, but for the check thus administered, they would work in excess or in a wrong direction. Thus the so-called savage has his will ill officered by his reason, and consequently erratic and impulsive in the outward signs of its existence;

and again in such every-day expressions as indolence, vanity, bad temper, we recognise the vulgar appreciation of the ill-managed education of these faculties. Example and precept are the influences which first bear upon their training, and although by a continuance, in some form or other, of this guidance, their culture is for long directed, we are individually responsible for the exercise of self-government, and for making the best use of the gifts with which we are endowed. This, which each one, when thrown upon his own resources, specially of himself must work for, this is what is known as self-culture. The world judges us by noting the signs we give of having succeeded in this self-discipline, and scores to our credit by the use of special names the good qualities which emanate from it. Now the more you have these faculties in subjection, the greater will be the ease with which you will apply yourselves to and master your work, for the helps they will bring to your assistance are many and of good repute.

I shall not greatly err if I place in the front rank control and discipline, not the discipline of which we read :

‘ In colleges and halls, in ancient days,
 When virtue, learning, piety, and truth
 Were precious, and inculcated with care,
 There dwelt a sage call’d Discipline.
 Learning grew
 Beneath his care, a thriving, vigorous plant;
 The mind was well inform’d, the passions held
 Subordinate, and diligence was choice.’

This is the discipline to which we must all submit, that which society imposes throughout life, in some guise or other, upon all from the highest to the lowest. This is the discipline enforced from without. The self-discipline of the mind is a voluntary restraint, the self-trained influence of the reason upon the will, and of the will reacting upon the reason. The discipline which results from willing nothing until it has been well thought over, and the order which must ensue as the outward sign of such methodical business-like self-control. No period of time was more fertile to disturb the balance of men's minds than were the earlier years of the French Revolution; and, to give you but a single illustration, it speaks well for self-discipline that the naturalist Cuvier, during this reign of terror, could carry on and complete the studies on the coasts of Normandy, which resulted in the subsequent publication of his grand work, the *Anatomy of the Molluscs*. Most great men have left records of their practice of self-discipline—Aristotle, for example, and his story of the Brazen Ball, or Demosthenes, the latter secluding himself often for months together to form his action and to exercise his voice.

One paramount influence must rule your training, for shame indeed on the intellect which is not tutored in obedience to moral control; for although man may reason well, and may possess the will to carry his purposes into practice, yet he will systematically err if there is not over all this higher

influence, the absence of which the world is a sharp censor to detect. No man possessed a more iron will, as it has been termed, than Napoleon ; no one acted more uniformly in obedience to the dictates of reason. Recal, however, his condemnation of the Duc d'Enghien. He carried out his sentence because he reasoned, rightly or wrongly, that politically it was the best course to follow. But the obloquy which the act has entailed shows that mankind felt keenly the moral obligation he had failed to recognise, and which his subtle reason, in this respect ill-trained, unhappily ignored.

Subject, then, to moral control, to be well drilled in self-discipline, you must habitually reflect and think over all matters which engage your attention, and thus utilise another of your possessions—the power of concentrating thought. Nothing is, I believe, more difficult to strengthen than is this faculty ; none more to be regretted in its weakness. The value set upon it is taught in the frequent recurrence of expressions, such as, ‘ He never pays attention,’ or of advice, such as, ‘ You cannot think of two things at once ;’ by which is meant that, from never having cultivated the gift, the power of concentrated thought, of making by an effort of the will the whole reason bear upon the immediate subject, is deficient, and the mind wanders from one thing to another, often in imbecile disorder. It is surprising, when uncontrolled, to what confusion the mind of man can fashion and vary its aimless

objects. This is clear from the ‘sudden transitions of dreams, in which the imagination can educe from the simplest principles such an amazing variety of forms, and call into exercise all the passions of the soul.’ The mind of man is, in fact, in perpetual motion, and this movement results only in unfettered imagination when the orderly exercise of control is suspended or diverted. So in disciplining yourselves always practise concentration of thought; let nothing turn you from the matter in hand; reason over your subject, and if it be one requiring action, as in the treatment of disease, carry out your purpose with unfaltering resolve. And if you do this constantly, in little things as in great, you will do all things in order and most things well.

In this pursuit of discipline you acquire thoughtful habits, and by thus reflecting and meditating you ripen another of your possessions—memory—which requires this exercise to enable you to put forth its fulness of power. We are much in the habit of speaking of memory as a gift specially to some, but in truth it belongs to all, and only needs calling upon to respond. Memory is without doubt often found to be more subtle for one thing than for another; a fact which, in many cases, merely proves that inclination or necessity has prompted its cultivation for some special object. This is the case in all instances of remarkable calculators, in whose reckonings memory plays so important a part; as it was, too, in the case of that odd fellow Charmidas, the

Greek, of whom Pliny tells us that he could repeat from memory the contents of the largest library ; so also with great linguists, as the Cardinal Mezzofanti, the master of seventy languages, who could learn off a new one to suit any especial occasion. Do not be downhearted if you experience at first some difficulty in recollecting and retaining facts (for memory, to be of good service, must be retentive). You may be quite sure he is a bad workman who complains of his memory, and that by work, and by degrees, you will certainly recollect better and better. And as your knowledge lives in your memory it will be ready for use and application on every apposite occasion ; it will be always at hand either to support your opinions or to illustrate your treatment.

Memory is essentially a faculty you must educate for yourselves ; of all others it is the one you cannot be well taught to excel in. Hence the failure of the strange devices which human ingenuity has from time to time contrived, under the name of mnemonics, to enable us to improve it. You must ascertain for yourselves how best you can remember. No rule can be given you for your guidance, for some learn best in one way, some by lectures, some by books, some by figures or dates, some have fanciful methods of their own for storing information ; and not only so, but as we have different natural affinities, so, as I have before observed, we do not all remember with equal ease the same sort of thing.

In an ordinary way the mind retains that which is congenial to it. But when braced up, stimulated, as it were, to the highest exercise of application, not only will it keep a more powerful hold upon those matters most akin to its tastes and propensities, but it can throw its whole force upon any special work, and ensure a firm grasp of it in permanence. Still the impressions will be most sharply and durably cut in the mind which make their marks through congenial tastes; and knowing this, I would not press routine too closely upon you, but, whilst endeavouring to interest you in your studies, and to make your minds work with intensified vigour, I would leave you to apply yourselves to the acquisition of knowledge through the channels in which your memory aids you best.

To practise control and discipline, to exercise thought and memory, requires patience and perseverance. You know of course how much greater are the effects of perseverance than are those of force, of violent short-lived work. In fact, 'perseverance is irresistible. By its means, time attacks and destroys the strongest and most durable things upon earth,' but not always with the same ease, for whilst many succumb readily, there are yet many things, 'well-nigh invincible in their collective capacity and in a state of union, which are gradually overcome when separated.' So in your case, your studies are purposely divided and arranged, so as to make your work as easy and as 'light as

possible, and even then all your perseverance will be required to enable you to master it; and if you wander, or if you fail to keep pace with the established order, you will soon find yourselves hopelessly in the rear.

As perseverance, however, is a term of general significance, and implies the pursuit of an object irrespective of the good or evil which may ultimately result from it, industry, honest industry, should rather be your watchword. Set down in the very beginning your resolve to be faithful to it, for without it there is no hope of success or of future distinction. If you ask me how to acquire industry, I tell you that it results from the self-control and self-discipline of which I have spoken. Some bend more easily to the measures which in youth evolve it, and we hear of studious, diligent children, but all such are none the less trained to industry, for by nature we do not incline to it, but by every ingenuity avoid and escape from it. Besides example and precept, the influences which beyond all others prompt us to be industrious are the sense of duty and the prospect of reward. What the world calls love of work is that which labours for its reward in the satisfaction of possessing the riches of intellect, without view to ulterior results; still, all such honest work will bring its recompense: it is, indeed, in chief measure, the prospect of reward, it matters not what, that occasions and proves true the saying that talent springs from the ranks of the poor. None the less

should it be remembered that originality, new thoughts, spring from patient work.

Examples abound. I cannot quote to you a more stirring one than that of the youthful scrivener, who 'by the wayside fell and perished, weary with the march of life,' but who left a name with which we associate remarkable industry and perseverance and brilliant powers of imagination, but who failed during life to attain the reputation posterity has awarded him, because he lacked high principle and moral control. Dr. Livingstone is an instance of what industry can accomplish, for his knowledge, as he tells us, was hardly acquired as he worked by the side of the spinning-jenny. James Ferguson, the astronomer, educated himself by the exercise of untiring industry, drawing his charts of the heavens on the hill-side, and constructing his celestial globe whilst tending his master's sheep. It is through examples in humble life that you can best appreciate the great results which follow industry in the acquisition of knowledge, leading men out from ignorance and barbarism, and enabling them to live so as to be serviceable to others, and to make their mark in the world. Industry makes the man, as indolence, its antithesis, mars him. In our own profession, Harvey, Hunter, to name but a few, and Astley Cooper, were all hard workers; indeed, Cooper did some of his best work, that which caused him the greatest amount of personal trouble, whilst occupied with all the cares of his private practice.

Although it is a twice-told tale, I cannot refrain from warning you against relying upon fortune, that various goddess to whom Demosthenes dedicated in golden characters the shield which he left disgraced upon the battle-field of Chæroneia, the same Cicero invokes in one of his prologues * as the adjuncta fortuna which crowned success. The reason for distrusting fortune is simply that no such thing as luck or chance, in our sense of the term, virtually exists. It is confused with the clear sight which seizes the exact moment for action. The battle of Marengo was decided by a charge of the French cuirassiers, and the world said by what a lucky chance; but Kellerman describes his exploit, ‘I see it, I am in the midst of them!’ and thus in a few words gives the key to the successful result by expressing the rapidly-formed and correct judgment of the well-trained officer, which enabled him to use an opportunity one less practised might have let slip. So, then, to avail yourselves of so-called fortune, you must be well trained through habits of industry and observation to be ready to make good use of opportunities. Think of the countless number you miss through want of this preparation. The man who is considered fortunate has, you will always find, succeeded by the exercise of control, of industry, or by that of some other good quality, and though, looking only at the surface, you may

* Pro lege Manilia.

speak of chance or luck securing us good things, if you look more closely, you will not fail to discover the deeper and truer cause of good fortune.

Habits of observation will make you, too, self-reliant; but only after long training. It follows as the consequence of possessing knowledge, that you acquire firmness of purpose, and feel confidence in yourselves. Before, however, years of study justify you in giving expression to this power, you must be content to exercise the grace of faith. Whilst examining for yourselves, and looking well into all doubtful matters, as most assuredly you should, there is much you must receive in faith, in reliance upon the statements of those who have the right to dictate to you. This is inseparable from the nature of your studies, especially as regards treatment; for it is next to impossible to explain the manner in which many remedies operate, although experience has taught us to rely upon them as the best for effecting the desired results. Observe, however, for yourselves, and if you find that these results ensue as promised, you will rely more willingly for the future upon the experience which teaches you, as alone it can.

You will be not a little helped, then, by the exercise and training of your own powers to assist yourselves in the pursuit of knowledge. Much as you may learn, your work knows neither halt nor stop. You must continue, at all times and in all seasons, in attentive observation upon nature,

trying to get as near truth, or truth's likeness, as you can. You must bear in mind that the acquisition of knowledge is, after all, not the only, or indeed the chief aim of your intellect. For

‘ Knowledge and wisdom, far from being one,
Have ofttimes no connection. Knowledge dwells
In heads replete with thoughts of other men ;
Wisdom in minds attentive to their own.
Knowledge, a rude unprofitable mass,
The mere materials with which wisdom builds,
Till smoothed, and squared, and fitted to its place,
Does but encumber where it seems t' enrich.
Knowledge is proud that he has learn'd so much ;
Wisdom is humble that he knows no more. ’

And wisdom is not to be mastered by work alone like knowledge ; it comes only—assisted, it is true, by knowledge—as the growth of time. Wisdom is the sum-total which results from the exercise of the moral control, the self-discipline, the industry, and the self-reliance of which I have told you, ripened and matured by age. Yet I scarce express myself aright in naming wisdom to you as a sum-total. It is ill likened to a final number—that would be indeed perfection ; for whatever be our share of wisdom, we must still pursue, restless for more ; and what more excellent gain than to feel that increasing years add to our capabilities for the wiser practice of our art ? It is something to know that at least we are working in a right direction. It was a weary task to throw off the incubus which overlay us, which found expression, long ago, in the apology

of Avenzoar the Arabian for the practice even of pharmacy and surgery, in the decrees of Pope Boniface the Eighth, and respecting which Garengéot wrote that, at all events, surgery had been utterly abandoned to vile charlatans.

Now as we advance toward a fixed goal, which is the endowment of human life with new aids to health and remedies against disease, by observation and experience of natural science, we find that our work is better appreciated by the intelligence of mankind, and the truthful researches of the present day are bringing us increasing influence in many matters pertaining to the welfare of our country. I would not conceal from you that I consider your work must progress with the advance of knowledge generally throughout the land, that more will be expected of you if you are to maintain your position in advance. This extra work will come to others as it has come to you, chiefly in the literary and scientific studies to which they must apply themselves before entering upon their more strictly speaking, medical education. I have long wished—and I know that there are many who share the opinion with myself—that you could commence your work here with a recognised knowledge of Chemistry and of Botany, as it would leave you greater freedom for Physiological research, which, within due limits, is becoming so important a feature in refining and making exact the principles of treatment. Practice you have here in abundance. I am sure that at Saint

Bartholomew's practical work will ever hold the first place, all other studies assisting and being subservient to it. Surgery, I feel it my duty to tell you, is here still free from ill-judged subdivisions which would break, if tolerated, its strength and vigour. In its integrity, Surgery is a noble science; piecemeal, it is degraded to so many petty arts. It is humiliating to hear it whispered that Surgery is a field too vast for a single intellect to grasp, or that we need isolate organ after organ and assign to each its special advocate. In view of the excellent results which follow the union even of Medicine and of Surgery in the hands of the practitioners of England, we may well be content to rest satisfied with the long-established subdivisions of our art, nor seek yet further to dissociate studies so mutually interdependent. Without doubt, as our knowledge of surgery increases, we must work all the harder to keep pace with its advance, but, rather than become traders in specialities, let us willingly do so, and continue the masters of a science.

The claims then upon your industry are many, and without doubt they are increasing. Remember, however, that perseverance is irresistible, before it your difficulties will imperceptibly disappear, and your work is sure to be crowned with the desired success if only you will act up to the advice given us by the wisest of the wise, 'Whatsoever thy hand findeth to do, do it with thy might.' Have you indeed seriously thought about this work,

which, as physicians and surgeons, you will hereafter be responsible for? Is it to heal the sick and relieve the suffering, to stand not unfrequently, I say it in all humility, between life and death? Gentlemen, it is more even than this, it is—to do this better, more wisely, more surely, than heretofore. This has been our work in the times gone by, we toil for it now, and this it is men will look to you for in the times to come.

THE END.

